AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) A three-dimensional object manipulating apparatus, comprising:

a display means for displaying a three-dimensional object on the screen of a display unit;

a coordinate detecting means for detecting a coordinate defined on the display screen by a user's physical touch on the display screen;

[[a]] an axis determination means for determining an axis of rotation of the three-dimensional object as a first line through a center of the display screen perpendicular to a second line from the detected coordinate through the center of the display screen; [[and]]

a rotation determination means for determining a direction of rotation about the axis of rotation for the three-dimensional object in a predetermined cycle on the basis of the coordinate detected by the coordinate detecting means; and

an object rotating means for rotating the three-dimensional object about the axis of rotation in the direction of rotation, ~~on the basis of the result of determination supplied from the determination means;~~

~~wherein the determination means determines the axis and direction of rotation for the three-dimensional object on the basis of a positional relation between the coordinate~~

~~detected by the coordinate detecting means and a central coordinate on the display screen;~~

~~wherein the determination means further determines a rotating speed for the three-dimensional object on the basis of a distance between the coordinate detected by the coordinate detecting means and a central coordinate on the display screen, and the object rotating means rotates the three-dimensional object at the determined speed; and~~

wherein the three-dimensional object stops rotating when the coordinate detecting means no longer detects a coordinate defined on the display screen by a user's physical touch on the display screen.

2-3. (Canceled)

4. (Currently amended) A three-dimensional object manipulating apparatus, comprising:

a display means for displaying a three-dimensional object on the screen of a display unit;

a coordinate detecting means for detecting a coordinate defined on the display screen by a user's physical touch on the display screen;

[[a]] an axis determination means for determining an axis of rotation of the three-dimensional object as a first line through a barycenter of the three-dimensional object displayed on the screen perpendicular to a second line from the detected

coordinate through the barycenter of the three-dimensional object displayed on the display screen; [[and]]

a rotation determination means for determining a direction of rotation about the axis of rotation for the three-dimensional object in a predetermined cycle on the basis of the coordinate detected by the coordinate detecting means; and

an object rotating means for rotating the three-dimensional object about the axis of rotation in the direction of rotation, ~~on the basis of the result of determination supplied from the determination means wherein the determination means determines an axis and direction of rotation for the three-dimensional object on the basis of a positional relation between the coordinate detected by the coordinate detecting means and the three-dimensional object on the display screen;~~

~~wherein the determination means determines a rotating speed for the three-dimensional object on the basis of a distance between the coordinate detected by the coordinate detecting means and barycentric coordinate of the three-dimensional object on the display screen, and the object rotating means rotates the three-dimensional object at the determined speed; and~~

wherein the three-dimensional object stops rotating when the coordinate detecting means no longer detects a coordinate defined on the display screen by a user's physical touch on the display screen.

5. - 8. (Canceled)

9. (Currently amended) A three-dimensional object manipulating method in which a display screen, a data processor, and a touch-sensitive coordinate detector are used, the method comprising the steps of:

displaying, under control of the data processor, a three-dimensional object on the display screen;

detecting a first coordinate defined on the display screen by a user's physical touch on the display screen;

determining, under control of the data processor, an axis ~~and~~ of rotation of the three-dimensional object as a first line through a center of the display screen perpendicular to a second line from the detected first coordinate through the center of the display screen;

determining, under control of the data processor, a direction of rotation for the three-dimensional object in a predetermined cycle on the basis of the first coordinate detected by the coordinate detector;

rotating, under control of the data processor, the three-dimensional object ~~on the basis of the result of determination~~ about the determined axis of rotation in the determined direction of rotation;

~~wherein the data processor determines the axis and direction of rotation for the three-dimensional object on the basis of a positional relation between the first coordinate and a central coordinate on the display screen; and~~

~~wherein the data processor further determines a rotating speed for the three-dimensional object on the basis of a distance between the first coordinate and a central~~

~~coordinate on the display screen, and rotates the three-dimensional object at the determined speed;~~

detecting a second coordinate defined on the display screen by a user's physical touch on the display screen; and

dynamically changing the determined axis[[,]] and direction~~, and speed~~ of rotation based on the second coordinate, wherein the determined axis[[,]] and direction~~, and speed~~ of rotation stops changing when the first and second ~~coordinate~~ coordinates defined on the display screen by a user's physical touch on the display screen [[is]] are no longer detected.

10. - 11. (Canceled)

12. (Currently amended) A three-dimensional object manipulating method in which a display screen, a data processor, and a touch-sensitive coordinate detector are used, the method comprising the steps of:

displaying, under control of the data processor, a three-dimensional object on the display screen;

detecting a first coordinate defined on the display screen by a user's physical touch on the display screen;

determining, under control of the data processor, an axis ~~and~~ of rotation of the three-dimensional object as a first line through a barycenter of the three-dimensional object displayed on the screen perpendicular to a second line from the detected first

coordinate through the barycenter of the three-dimensional object displayed on the display screen;

determining, under control of the data processor, a direction of rotation for the three-dimensional object in a predetermined cycle on the basis of the first coordinate detected by the coordinate detector;

rotating, under control of the data processor, the three-dimensional object ~~on the basis of the result of determination~~ about the determined axis of rotation in the determined direction of rotation;

~~wherein the data processor determines an axis and direction of rotation for the three-dimensional object on the basis of a positional relation between the first coordinate and the three-dimensional object on the display screen; and~~

~~wherein the data processor further determines a rotating speed for the three-dimensional object on the basis of a distance between the first coordinate detected by the coordinate detector and barycentric coordinate of the three-dimensional object on the display screen, and rotates the three-dimensional object at the determined speed;~~

detecting a second coordinate defined on the display screen by a user's physical touch on the display screen; and

dynamically changing the determined axis[[,]] and direction~~, and speed~~ of rotation based on the second coordinate, wherein the determined axis[[,]] and direction~~, and speed~~ of rotation stops changing when the first and second ~~coordinate~~ cooridnates defined on the display screen by a user's physical touch on the display screen [[is]] are no longer detected.

13. - 16. (Canceled)

17. (Currently amended) A computer readable media comprising [[a]] computer ~~program~~ readable instructions for allowing a computer to function as:

a display means for displaying a three-dimensional object on the screen of a display unit;

a coordinate detecting means for detecting a coordinate defined on the display screen by a user's physical touch on the display screen;

[[a]] an axis determination means for determining an axis of rotation of the three-dimensional object as a first line through a center of the display screen perpendicular to a second line from the detected coordinate through the center of the display screen;

a rotation determination means for determining a direction of rotation for the three-dimensional object about the axis of rotation in a predetermined cycle on the basis of the coordinate detected by [[a]] the coordinate detecting means ~~for detecting a coordinate defined on the display screen by a user's physical touch on the display screen~~; and

an object rotating means for rotating the three-dimensional object about the determined axis of rotation in the determined direction of rotation ~~on the basis of the result of determination supplied from the determination means;~~

~~wherein the determination means determines the axis and direction of rotation for the three-dimensional object on the basis of a positional relation between the coordinate~~

~~detected by the coordinate detecting means and a central coordinate on the display screen;~~

~~wherein the determination means further determines a rotating speed for the three-dimensional object on the basis of a distance between the coordinate detected by the coordinate detecting means and a central coordinate on the display screen, and the object rotating means rotates the three-dimensional object at the determined speed; and~~

wherein the three-dimensional object stops rotating when the coordinate detecting means no longer detects a coordinate defined on the display screen by a user's physical touch on the display screen.

18. - 19. (Canceled)

20. (New) A computer readable media comprising computer readable instructions for allowing a computer to function as:

a display means for displaying a three-dimensional object on the screen of a display unit;

a coordinate detecting means for detecting a coordinate defined on the display screen by a user's physical touch on the display screen;

an axis determination means for determining an axis of rotation of the three-dimensional object as a first line through a barycenter of the three-dimensional object displayed on the display screen perpendicular to a second line from the detected

coordinate through the barycenter of the three-dimensional object displayed on the display screen;

a rotation determination means for determining a direction of rotation for the three-dimensional object about the axis of rotation in a predetermined cycle on the basis of the coordinate detected by the coordinate detecting means; and

an object rotating means for rotating the three-dimensional object about the determined axis of rotation in the determined direction of rotation,

wherein the three-dimensional object stops rotating when the coordinate detecting means no longer detects a coordinate defined on the display screen by a user's physical touch on the display screen.